

Amendments to the Specification

Please replace the paragraph beginning at page 1, line 4 with the following amended paragraph:

The invention relates to a method and an apparatus for welding and in particular contour-welding three-dimensional molded articles ~~comprising the features specified in the preamble of claims 1 and 8.~~

Please replace the paragraph beginning at page 1, line 8 with the following amended paragraph:

Lots of ways of prior art plastics laser beam welding have been developed. Fundamentally, the two join partners get in contact with each other in the vicinity of the contour that is to be welded. For a gap between the join partners to be avoided - which would negatively affect the welding result - and for any shape tolerances to be balanced, a clamping device acts on the join partners in the area of joining. Finally, they are being radiated in the area of welding by a laser welding beam, as a result of which at least one of the join partners will melt and the second partner will start melting by heat transfer, with both partners ultimately uniting integrally.

Please replace the paragraph beginning at page 5, line 4 with the following amended paragraph:

Although the secondary radiation may basically also be produced by a second laser, cost reasons speak against this in the field of industrial application. Rather, infrared or UV radiators are preferred ~~according to claim 3 and 11~~, their radiation being better absorbed by many uncoloured plastics than are customary laser welding wavelengths of for example 780 to 1000 nm. Special preference applies to short-wave secondary radiation produced by halogen infrared radiation source ~~as seen in claims 4 and 12~~.

Please replace the paragraph beginning at page 5, line 12 with the following amended paragraph:

When simultaneous radiation of the two join partners is mentioned in the independent claims, this does not mean that the radiation periods must be absolutely simultaneous. Rather it must be ensured that the laser welding beam will act on the join partner, in particular the partner that is to be melted, at a time at which significant interaction with the area, of increased temperature by secondary radiation, of the join partners can take place in the sense of homogenization of the temperature field and enlargement of the process window. In this regard, according to preferred embodiments of the

method according to the invention and the corresponding apparatus, the secondary radiation can be applied substantially concentrically and synchronously of the laser welding beam or leading ahead thereof ~~as specified in claims 5 and 6 and 13 and 14, respectively.~~

Please replace the paragraph beginning at page 5, line 25 with the following amended paragraph:

For increased efficiency of the secondary beam source, it is advantageous to focus the secondary radiation ~~(claims 7 and 15).~~

Please replace the paragraph beginning at page 5, line 28 with the following amended paragraph:

In keeping with another preferred embodiment, the invention provides, ~~according to claims 8 and 16,~~ to apply the secondary radiation and/or the laser welding beam by a clamping device that is transmissive thereto, in particular a clamping roller. This is accompanied with the advantage that the clamping device acts directly on the currently activated welding area, whereby component tolerances are being compensated optimally and corresponding joining gaps are reduced to a minimum.

Please replace the paragraph beginning at page 9, line 24 with the following amended paragraph:

This means improved weldability regarding component tolerances, as clarification in Figs. 6 and 7. These illustrations are sectional views of the two join partners 1, 2 crosswise of the weld direction with a gap 23, due to flaws or tolerance, on the outline K being welded. Upon application of a certain clamping pressure (arrows 24 of Figs. 6 and 7), this can be regarded as ~~flection~~flexion, about the point of support A, of the top partner 1 that constitutes the top layer. In a simplified view as a one-dimensional flexural arm, a linear stress field produces (arrows 25 in Figs. 6 and 7), which is zero on the level of the neutral fiber and, in dependence on the modulus of elasticity of the material, ascends linearly towards the rims of the top layer, namely upwards as tensile stress and downwards as compressive stress. As the case may be, the gap 23 will not be bridged (sufficiently).